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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,032	04/01/2005	Jouni Sihvola	3506-1008	2946
<small>465</small> YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			<small>7590</small> EXAMINER KELLY, YOLANDA LYNNETTE	
			ART UNIT 4174	PAPER NUMBER
			MAIL DATE 11/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/530,032

Applicant(s)

SIHVOLA, JOUNI

Examiner

Y. Lynnette Kelly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SF/88)
Paper No(s)/Mail Date 01 April 2005
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Specification

1. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are:

Claims 1-20 are very poorly written and practically incomprehensible. The claims in this Application are examined as best understood by the Examiner.

Claim Objections

2. Claims 5, 6 and 14-20 are objected to because of the following informalities: The use of the term "spice/s and/or herb/s" is technically improper throughout patent terminology. Examiner suggests changing the term to "at least one member selected from the group consisting of a spice and a herb." See MPEP 803.02.

3. Claims 1, 2, 5, 6 and 14-20 are objected to because of the following informalities: the use of the term "x/s" is technically improper throughout patent terminology. Examiner suggests changing the term to "x(s)." For example, the term "flour/s" should be changed to "flour(s)."

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the optional flour" in line 5. There is insufficient antecedent basis in claim 1 for this limitation.

Claim 4 recites the limitations "the flour" and "the non-animal broth concentrate". There is insufficient antecedent basis in claim 1 for this limitation.

6. Claims 2, 4, 8, 9, 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat.

App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

Regarding claims 2, 4, 8, 9, 12 and 13 the phrase "preferably" renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Liepa et al. US 3,840,679.

Liepa discloses and teaches a process of preparing a meat analog. In the background of the invention Liepa teaches differing methods of creating meat analogs. Column 1, line 44-Column 2, line 33. In these differing processes, Liepa describes methods in which mixtures of protein, water, flavor and other minor ingredients are

combined, heated and formed into desired shapes. *Id.* Liepa teaches combining soy protein, liquid and optional ingredients such as binders, flavorings, preservatives, stabilizers and fats. Column 4, lines 1-56; Column 9, lines 14-30. Suitable dry binders may be prepared from gums, such as psyllium seed. Column 10, lines 5-55. These dry binders are utilized in the mix when non-heat coagulable proteins, such as soy protein are used. Column 4, line 62- Column 5, line 12. After the mixture is heated and formed into the desired shape, the product may be fried. Column 9, lines 63-67.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 4-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liepa as applied to claims 1 and 3 above, in view of Orthoefer US 4,125,630, Yamada US 4,863,749, Yu WO 02/13761 A2 and bb, TVP ideas, The Recipe Link, June 13, 1998 *at* <http://www.recipelink.com/msgid/05282> [hereinafter TVP article].

In regard to claims 2, 4 and 7-13, as stated above, Liepa discloses and teaches a process of preparing a meat analog. Liepa describes methods in which mixtures of protein, water, flavor and other minor ingredients are combined, heated and formed into

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desired shapes. *Id.* Liepa teaches combining soy protein, liquid and optional ingredients such as binders, flavorings, preservatives, stabilizers and fats. Column 4, lines 1-56; Column 9, lines 14-30. Suitable dry binders may be prepared from gums, such as psyllium seed. Column 10, lines 5-55. These dry binders are utilized in the mix when non-heat coagulable proteins, such as soy protein are used. Column 4, line 62-Column 5, line 12. After the mixture is heated and formed into the desired shape, the product may be fried. Column 9, lines 63-67. Specifically, Liepa teaches combining 90-10% soy protein and 10-90% water with additional spices, herbs and flavorings. Column 5, lines 3-23; Examples 1-5. The binder comprises from 10-90% of the protein. Column 10, lines 50-54. Liepa teaches most of the embodiments of the claimed invention; however, Liepa does not specifically mention the heating temperature and fat content of the soy flour or teach the use of specific additional ingredients, such as flour, non-animal broth concentrate and soy flakes.

Orthoefer discloses the preparation of "textured vegetable proteins which may be specifically tailored for a specific meat analog end-use and meat analog thereof." Column 2, lines 29-Column 3, line 13. Orthoefer combines water, an edible plasticizer, such as seed extract gums, and a vegetable protein, such as soybean protein, flour or flakes. *Id.*; Column 3, line 47-Column 4, line 26; Column 5, lines 18-25. The mixture is then heated to an elevated temperature of typically below 95° C. Column 6, lines 30-41. The mixture is then heated again, dried, rehydrated and formed into a meat analog product. Example I.

Yamada discloses a process of producing a "wide variety of all-vegetable meat analogs which are low in cholesterol." Column 2, lines 6-60. The meat analog may take the form of a hamburger, loaf, cube and the like. *Id.* A texturized vegetable protein (TVP) of soy protein is mixed with a hydrated binder, such as vegetable proteins, flours or mixtures thereof, and additional ingredients. *Id.*; Column 8, line 36 – Column 9, line 29. The binder can comprise from 10-40% of a vegetable flour. *Id.* The TVP used by Yamada is a soy flour, soy protein concentrate or soy protein isolate which as Applicants and Yamada state is a defatted product. Application [0016]; Column 3, lines 47-62. The mixture can be formed into any desired shape according to the product to be simulated. Column 3, lines 30-31.

Yu discloses a method of producing psyllium with improved functionality. Yu describes some possible uses for psyllium, such as a binder or lubricant in meat products. Page 3. Yu goes on to state that "psyllium may have potential applications as a carbohydrate based fat-replacer to be used in low fat/low calorie foods." *Id.* As a additional reference, Yu also defines psyllium in its raw state to be any product derived from "psyllium husk, e.g. whole psyllium seed, psyllium flour, isolated psyllium husk polysaccharides" or a typical commercial product of 98% purity and 40 mesh, i.e. a psyllium powder. Pages 8-9.

The TVP ideas article is a recipe for making a beef flavored non-animal broth product. TVP is soaked in a 1.2% aqueous vegetarian 'beef' broth to produce a ground hamburger like beef flavored all vegetable product. The vegetable product can be

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combined with a variety of additional ingredients to produce a variety of differing final food products, such as meatballs, burgers or meat-like spaghetti sauce.

The food art is a science that is practiced in private kitchens where chefs experiment with differing ingredients, compositions, flavors, concentrations and temperatures in order to achieve a desired result. Liepa teaches a process of making a meat analog with a binder and the resultant product claimed in this Application without reciting the specific additional ingredients or concentrations claimed in this Application. Orthoefer also teaches a process of making a meat analog with a binder and the resultant product; however, Orthoefer specifically teaches various weight percent ranges of the ingredients and a temperature range for heating the mixture. Yamada further teaches a process of making a meat analog with a binder and the resultant product; however, Yamada specifically teaches that the TVP used is defatted and that various weight percent ranges of ingredients may be used, including a specific concentration of vegetable flour that may be used in the composition.

Therefore, since Yu teaches the use of psyllium powder as a fat replacing binder in food stuff and Liepa, Orthoefer and Yamada all teach a process of making a meat analog with a binder and the resultant product, it would have been obvious for a person of ordinary skill in the art at the time this invention was made to have created a meat analog product from a TVP with a psyllium powder binder and additional desired ingredients, such as a vegetable broth concentrate, 10-40% fat soy flour, soy flakes, herbs and spices.

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In regard to claims 14-20:

MPEP 2144.05(II)(A) states that differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. As supported by Liepa, Orthoefer, Yamada, Yu and the TVP ideas article, differing concentrations of a liquid, TVP, binder, such as psyllium, non-animal broth concentrate, herbs and spices may be employed to achieve a desired product. Given the prior art stated above, it would have been obvious for one skilled in the art at the time this invention was made to improve on these prior art meat analogs by varying the concentrations and compositions of ingredients that are generally already known in the art to achieve a desired product.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. Lynnette Kelly whose telephone number is 571-270-3472. The examiner can normally be reached on Monday - Friday EST (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Tarazano can be reached on 571-272-1550. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 4174

Y. Lynnette Kelly
Examiner
Art Unit 4174